



**JOINT LOGISTICS COMMANDERS
JOINT AERONAUTICAL COMMANDERS' GROUP**
DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AERONAUTICAL SYSTEMS CENTER (AFMC)
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22 JAN 2004

**MEMORANDUM FOR THE ARMY ACQUISITION EXECUTIVE
THE NAVY ACQUISITION EXECUTIVE
THE AIR FORCE ACQUISITION EXECUTIVE
DIRECTOR, DEFENSE LOGISTICS AGENCY**

FROM: Joint Aeronautical Commanders' Group (JACG)

SUBJECT: Proposed Instruction on Management of Aviation Critical Safety Items (CSIs)

1. For the past 3 years, the JACG has been working to improve the management of aviation Critical Safety Items (CSIs) across the military services, defense agencies, and civil agencies. CSIs are aviation parts whose failure have catastrophic implications. They represent less than five percent of the total population of replenishment items used in aviation systems. Because of the consequences of failure, CSIs require disciplined life-cycle management. On 27 August 2002, the JACG issued guidance for procuring, managing, and disposing CSIs. We have refined our guidance based on lessons learned over the past 15 months. Rather than reissue guidance, we believe it is important for the direction to be published as a formal joint service and defense agency instruction. Accordingly, we request your support for publishing the attached joint instruction.
2. We thank you for your prior assistance in our efforts to reestablish statutory provisions governing CSIs. Section 802 of the 2004 National Defense Authorization Act (P.L. 108-136) requires the Secretary of Defense to prescribe a policy for the quality control of aviation CSIs. It specifically requires that: 1) Design Control Activities establish a process to identify and manage aviation CSIs, 2) aviation CSIs be purchased only from sources approved by the Design Control Activity, and 3) delivered aviation CSIs meet requirements established by the Design Control Activity. As a point of interest, Section 8143 of the 2004 National Defense Appropriations Act also contained reporting requirements concerning the Defense Department's system to track safety-critical parts, notify contracting agencies and contractors about safety issues, and oversee prime and subcontractors. We believe the draft instruction, coupled with Defense Federal Acquisition Regulation Supplement (DFARS) changes the JACG is drafting, will implement the Authorization Act requirements and will establish a tracking and notification process for aviation systems as contemplated by the Appropriations Act.
3. We request that the attached draft joint Navy, Army, Air Force, Marine Corps, Defense Logistics Agency, and Defense Contract Management Agency instruction on managing aviation CSIs be formally coordinated within your service or agency. Mr. Jeffrey Allan, NAVAIR-4.1C, (301) 342-2246 or jeffrey.allan@navy.mil, is the JACG lead for CSI policies. He will be pleased to brief you and work with your staff in the coordination process.

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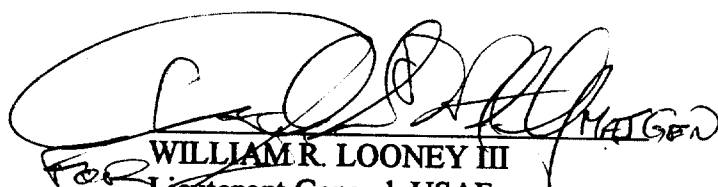
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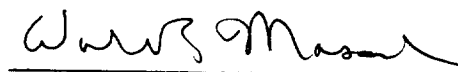
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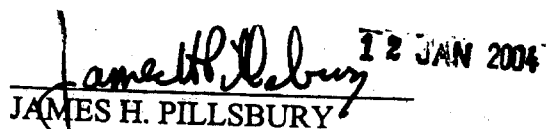


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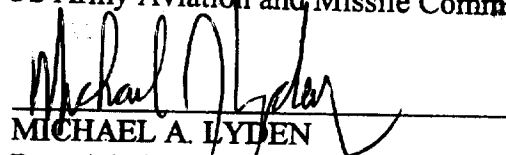
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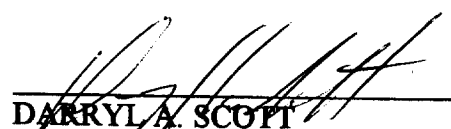
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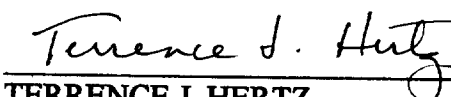
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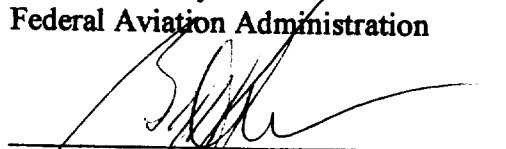
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Attachment:
Draft Joint Instruction

cc:
USD (AT&L)
AFMC/CC
AMC/CG
DASN(AIR), DASN(L), DASN(ACQ)

SECNAVINST XXXX.XX
AFI XX-XXX
AR XXX-XX-X
DLAI XXXX.XX
DCMA XXXX.XX

NAVAIR-4.1C

DD MM YY

MANAGEMENT OF AVIATION CRITICAL SAFETY ITEMS

A. REFERENCES

1. Public Law No 108-136 "National Defense Authorization Act for Fiscal Year 2004", Section 802, Quality Control In Procurement Of Aviation Critical Safety Items And Related Services.
2. DoD 4140.1-R, DoD Supply Chain Material Management Regulation, Section C8.5, DoD Aviation Critical Safety Item (CSI)/Flight Safety Critical Aircraft Part (FSCAP) Program
3. ASME Y14.100, Engineering Drawing Practices
4. ASME Y14.24, Types and Applications of Engineering Drawings
5. ASME Y14.35M, Revision of Engineering Drawings
6. ASME Y14.34M, Associated Lists
7. DoD-STD-2101, Classification of Characteristics
8. DFARS-Appendix E, DoD Spare Parts Breakout Program
9. FAA Order 8110.42A, Parts Manufacturer Approval Procedures
10. DFARS 208.70, Coordinated Acquisition
11. FAR 46, Quality Assurance
12. DFARS 246, Quality Assurance
13. DFARS 217.7503, Acquisition of Parts When Data Is Not Available
14. DLAR 4155.24/AR702-7/SECNAVINST 4855.5A/AFR 74-6, Product Quality Deficiency Report Program

15. DUSD(L) Memo of Feb 16, 2000, Mutilation of Flight Safety Critical Aircraft Parts (FSCAP) at the Defense Reutilization and Marketing Offices (DRMOs)
16. DLAI 3200.1/PAM 715-13/NAVSUPINST 4120.30A/AFI 21-405/MCO 4000.46, Engineering Support For Items Supplied By Defense Logistics Agency and General Services Administration, dated 31 Oct 94
17. FAA AC 20-142, Eligibility and Evaluation of U.S. Military Surplus Flight Safety Critical Aircraft Parts, Engines, and Propellers
18. DOD 4160.21M, Defense Reutilization and Marketing Manual
19. DOD 4160.21M-1, Defense Demilitarization Manual

Encl: (1) Definitions
(2) Example Forms for One-Time Manufacturing Approval
(3) Significant Product Characteristics/Features for CSIs

B. PURPOSE. This instruction:

1. Establishes policy, procedures, and assigns responsibilities for the life-cycle management of replenishment items critical to aviation safety as required by and implements the Department of Defense (DoD) Critical Safety Item/Flight Safety Critical Aircraft Part (FSCAP) program as required by references 2.
2. Addresses requirements governing the initial determination of item criticality and subsequent changes to this determination; coding and tracking of aviation Critical Safety Items (CSIs); the process for ensuring the adequacy of technical data and proposed changes; the process for approving sources of supply and repair/overhaul; the surveillance process assuring that approved sources retain required capabilities; authorities for one-time organic manufacture of CSIs under exigent circumstances; and requirements for disposing of CSIs when no longer needed by military aviation.

C. APPLICABILITY AND SCOPE. This instruction:

1. Applies to Program Executive Officers (PEOs), Commanders of system acquisition and logistics organizations, program managers, and other agencies or commercial entities providing procurement, repair, or overhaul services to aviation materiel. The provisions included herein should be incorporated in contracts to commercial sources for the acquisition or logistics support, repair or overhaul CSIs or systems that incorporate CSIs.
2. Covers aviation CSIs used in fixed and rotary wing aircraft, unmanned air vehicles, Aircraft Launch and Recovery Equipment (ALRE), aviation weapons and equipment, and associated aviation support equipment

3. Does not apply to commercial aircraft or subsystems purchased and maintained in accordance with Federal Aviation Administration (FAA) regulation, unless required by the Service ESA. This instruction applies to those portions of the commercial aircraft or subsystems modified or maintained to meet unique military requirements.
4. Does not apply to items provided through the foreign military sales program for foreign owned and operated aircraft, systems, or equipment when a) the aircraft or item being acquired or modified is not in the active DoD inventory and the U.S. military no longer has engineering expertise on the aircraft or item, or 2) the foreign customer directed the use of suppliers or configurations not approved by the US military Services.

D. DEFINITIONS. See enclosure 1.

E. PROCEDURES.

1. Criticality Determinations and Identification:

a. Criticality determinations for each new replenishment item shall be established by the cognizant Service Engineering Support Activity (ESA) prior to initial supportability analysis to allow adequate support planning for CSIs. During initial provisioning/cataloging or approval of a design change notice, the cognizant Service logistics organization shall validate that the criticality determination has been accomplished and is accurately documented. The criticality determination shall be recorded in all appropriate databases.

b. An item shall be identified as CSI when failure of that item could result in loss or substantial damage to the air vehicle or weapons system, or death or serious injury to personnel. Damage sufficient to create a Class A accident or a mishap of severity category I constitutes "substantial damage". Items determined by the system prime contractor to be a "flight safety part", "flight critical part", or similar terminology shall be designated as CSIs unless determined otherwise by the Service ESA. Items determined as "structurally significant", "fracture critical", or "safety of flight structure" shall be identified as CSI.

c. All CSIs shall be considered to be FSCAP in accordance with reference 2. The Service organization responsible for assuring airworthiness (i.e., operational safety, suitability, and effectiveness) will be the "Aircraft Airworthiness Authority" for these items. The CSIs shall be identified as FSCAP with the applicable criticality code in the Federal Logistics Information System (FLIS) by the Integrated Material Manager (IMM) having management responsibility for the item. CSIs not currently identified as FSCAP in the FLIS system shall additionally be recorded as such.

d. For a common use new replenishment item or when an existing common use replenishment item is assessed for criticality, the IMM shall coordinate the criticality determination with affected Service ESAs and shall reflect the most stringent determination in the logistics files. When the common-use item is determined to be CSI in some applications but non-CSI in others, the IMM may establish separate National Stock Numbers when it is economically advantageous to do so.

e. Drawings and associated technical data for new replenishment items shall clearly identify that the item is CSI. Drawings and technical data shall identify the critical and major characteristics, critical processes, and inspection and other quality assurance requirements. Drawing practices for CSIs shall be in accordance with references 3 through 6. Critical and major characteristics for CSIs shall be established in accordance with reference 7 and shall clearly be identified on the drawings and associated documentation.

f. Where legacy drawings for CSIs do not clearly identify the item as a CSI, or do not identify the critical characteristics/ processes, the cognizant Service ESA shall determine whether there are sufficient other protections in place (e.g., application of Enclosure (3)) to assure successful procurement or repair/overhaul of the CSI. If not, the ESA shall update the drawings to identify the critical characteristics and/or processes.

g. Items determined to be CSIs shall be identified as such to the designated logistics manager for inclusion in the supportability analysis candidate listing to ensure adequate support planning. Additions to the initial list of CSIs shall also be provided to the logistics manager as changes occur throughout the life cycle of the equipment.

h. All CSIs shall be documented, by National Stock Number (NSN) and/or Part Number (P/N), in the maintenance plan. CSIs shall be identified using a Special Maintenance Item Code (SMIC) of "H" or "J," and a Criticality Code of "F" or "E." in accordance with MIL-PRF-49506

i. Approved sources of supply or repair/overhaul shall be identified for each CSI at the time the criticality determination is established or as soon afterwards as practical.

j. The cognizant Service organization for each CSI shall assign the appropriate Acquisition Method Codes (AMC)/Acquisition Method Suffix Codes (AMSC) based on the cognizant Service ESA criticality determination. AMCs and AMSCs are used to instruct the contracting officer on the suitability of an item for competitive procurement in accordance with reference 8.

k. AMC/AMSC codes of 1G or 2G (i.e., a part is a candidate for full and open competition) shall not be used for CSIs unless reviewed and approved by the ESA.

l. The cognizant Service ESA shall approve any proposed change to AMC/AMSC assignments from a restrictive code to a less restrictive code for CSIs.

m. Criticality determinations for existing items shall be revalidated by the Service ESA whenever there are changes to the item's configuration, manufacturing or repair/overhaul processes, or sources of supply or repair/overhaul, or when there is a request for waiver or deviation.

n. CSIs shall have serial numbers on the item and on the packaging in accordance with reference 2, unless impractical or determined otherwise by the Service ESA. When impractical to establish serial numbers on the item itself, CSIs shall have distinguishable marking schemes approved by the Service ESA. The technical documentation shall reflect the appropriate marking scheme.

2. Sourcing:

a. CSIs shall be purchased or repaired/overhauled only from sources approved by the Service ESA. The objective is to achieve competition among approved CSI suppliers and their products and to ensure that potentially new CSI suppliers and their products are effectively evaluated prior to delivery of CSIs to the Services. The source approval requirements established by this instruction are comparable to the Parts Manufacturer Approval (PMA) procedures established by FAA in reference 9. Unless otherwise established by the cognizant Service ESA, only the following categories of sources shall be considered approved:

(i) the system or subsystem prime contractor;

(ii) the actual manufacturer (i.e., Original Equipment Manufacturer (OEM)) that supplies the CSI(s) to the prime contractor where the Service ESA determines the prime contractor provides no "value added" to the item that couldn't be performed by the Government. The Service and DLA logistics organizations and the Defense Contract Management Agency (DCMA) shall provide assistance to the Service ESA in assessing "value added" for CSIs;

(iii) fully-licensed manufacturers of the prime contractor or of the OEM that provide substantiation of their licensing arrangement, as validated by and acceptable to the Service ESA;

(iv) fully-licensed repair/overhaul facilities of the prime contractor or of the OEM that provide substantiation of their repair/overhaul arrangement with the prime contractor, as validated by and acceptable to the Service ESA;

(v) dealers or distributors approved by the Service ESA who provide traceability (as defined in enclosure (1)) that the items they are supplying were produced by the system prime contractor, OEM, or approved alternative source and are unchanged in any way;

(vi) sources identified on a Qualified Product List (QPL) or Critical Item Procurement Requirements Document (CIPRD) where the ESA coordinated on the approval. Sources identified on source controlled drawings shall be considered approved, unless determined by the ESA to be otherwise. Any additional quality assurance provisions established by the ESA for the aforementioned sources or situations shall be incorporated in contracts; and

(vii) alternate sources approved by the cognizant Service ESA (which may include FAA certificate/approval holders). Service depots and other organic government facilities may be considered alternate sources for production of CSIs provided they are approved by the Service ESA to satisfy the requirements of this instruction.

b. When dual use CSIs are purchased from other than FAA certificate/approval holders (Production Approval Holders, PMA Holders, Technical Standard Order Authorization Holders, Certificated Repair Stations) or their approved suppliers, or the documentation

supporting procurement or repair from one of these sources does not exist or is unavailable, the CSIs are not to be considered FAA approved (references 2 and 17).

c. A small number of CSIs used in aviation propulsion and power systems received approval from the Service Senior Procurement Executive for procurement using other than full and open competition. The specific part numbers covered under this authority are identified in the Class Justification and Approval letters on file with the cognizant Service propulsion and contracting departments. These propulsion CSIs (sometimes referred to as Propulsion Flight Safety Critical Parts) shall only be purchased from the propulsion system prime contractor or the propulsion system prime contractor's licensed manufacturer.

d. Alternate sources shall be revalidated by the Service ESA to ensure they remain capable of delivering satisfactory items if they have not delivered or repaired/overhauled the specific CSI to the DoD within three years of an anticipated solicitation. Similarly, alternate sources shall be reevaluated if there are concerns regarding product quality, manufacturing process changes, the source moves its manufacturing location, or the source has transferred its manufacturing facilities since the last manufacture. Only the Service ESA can determine whether reevaluation should be waived or the extent to which reevaluation should be relaxed.

e. System prime contractors and OEMs 1) with design responsibility from the system prime contractor for the preparation and technical currency of engineering drawings, 2) who supply the CSIs to the prime contractor, and 3) have current quality systems acceptable to the Government normally will not need reevaluation even if they have not delivered or repaired/overhauled the specific CSI within 3 years. However, reevaluation may be considered if there are concerns regarding product quality, manufacturing process changes, the source moves its manufacturing location, or the source has transferred its manufacturing facilities since the last manufacture, or if a new source is being qualified by the prime contractor.

f. Proposed changes to approved sources' manufacturing processes, methods, controls, manufacturing locations, or manufacturing facilities that were used to demonstrate the approved sources' capabilities shall be reviewed and approved by the Service ESA prior to accepting delivery of the CSI. Solicitations and contracts for CSIs shall require the contractor to formally notify the procuring activity of any proposed change to any prior approval factor evaluated by the Service ESA. Dual use parts or products subjected to this paragraph are no longer FAA approved in accordance with reference 17.

g. Sources for CSIs approved by one Service that have common usage with other Services shall be recognized across all Services provided:

(i) the defined item requirements meet the most stringent requirements required of the item by an individual Service (as determined by the each Service ESA for assigned items);

(ii) the source qualification requirements of the original approving Service were comparable to or greater than those required by each Service;

(iii) each Service ESA had the opportunity to review all information that supported the request for approval and the determination that the source was acceptable and the other Services' ESA concurred in the conclusions; and

(iv) there is compliance with the procedural requirements of this instruction; .

h. Unless otherwise authorized by the Service ESA, offers of surplus material (as defined in enclosure (1)) of CSIs shall only be considered for procurement provided the Service ESA has approved documentation substantiating the below criteria. Government contract quality assurance inspections will be performed on the surplus offers to ensure the criteria are met and all critical characteristics identified on the component drawings, in the solicitation or contract, in the Quality Assurance Letter of Instruction, or as established by Enclosure (3) are acceptable. Supplementary quality assurance provisions may be provided where verification of critical safety characteristics cannot be performed without degradation of the CSI.

(i) the proposed item was originally manufactured by an approved source at the time of manufacture and the manufacturer's approval for that item has not subsequently been revoked; and

(ii) the item is unused in any way; and

(iii) the item is not repaired, recycled, remanufactured, reconditioned, or has not been previously dispositioned as nonconforming by the system or subsystem prime contractor, OEM, other supplier or the Government; and

(iv) the surplus item fully conforms to all critical characteristics as identified in item technical data requirements, contract, or other ESA instruction (i.e., the item's critical characteristics are not discrepant in any way); and

(v) the remaining shelf life or other time critical aspects of the item are acceptable to the Service ESA; and

i. Local purchase of CSIs is prohibited unless justified by unusual and compelling urgency, as described in reference 10. Local purchase of CSIs is not authorized unless approved by the Service ESA. When CSIs are procured locally, the buying activity shall notify the cognizant IMM.

j. Prior to installation of replacement CSIs not drawn from "ready for issue" inventory (e.g., obtained from aircraft recovery sites or other salvage/cannibalization activities), the ESA shall ensure that all required maintenance actions and configuration changes are in conformance with current fleet technical documentation and that applicable acceptance test procedures have been satisfied.

k. Service depots and other Government organic facilities are authorized to manufacture CSIs in accordance with the following:

(i) Alternate Source for Recurring Production: Depots and other government organic facilities are candidates to be alternate sources for routine, repetitive, production lot

manufacturing of CSIs provided the Service ESA confirms they meet all the requirements established for alternate source qualification.

(ii) One Time Manufacture: Depots and other Government facilities are authorized to manufacture CSIs in limited quantities (one or a few) on a “one-time basis” without undergoing the full alternate source qualification process only when the Service ESA confirms the below conditions are satisfied. Execution of all phases of one-time manufacture processing shall be done on an emergency basis and will be given high priority. Quantities in excess of the immediate need may be manufactured where additional items are necessary for testing (e.g., first article, fatigue strength, other destructive tests, etc.) or the economics of production, part usage and production processes indicate this is clearly advantageous to the government. This authority for “one-time manufacture” shall not be used to circumvent alternate source qualification requirements for repeat or routine production. This one-time manufacture requirement does not apply to items produced to support research, development, test, or evaluation. The parts produced in accordance with this process shall be coded, tracked, and disposed of as military unique CSIs. Criteria for authorization of “one-time” manufacture of CSIs:

(a) there is an urgent need for a limited quantity of items to fill an immediate requirement for depot production or fleet operational requirements and no previously approved source (contractor or organic) exists, or approved sources cannot deliver the parts within the required time; and

(b) the Service ESA has established the technical requirements (i.e., design requirements, manufacturing processes, testing requirements, inspection requirements, etc.) necessary to assure acceptability of the manufactured item, and that the time and expense required to produce and conduct the necessary tests/evaluations supports the decision to manufacture and test the item on a one-time basis; and

(c) the items are produced with equivalent or better manufacturing processes, controls, quality, and traceability as parts manufactured by the formally approved equipment manufacturer; and

(d) the quality and manufacturing attributes of CSIs produced under this “one-time manufacturing” authority are traceable through formal contemporaneous documentation from point of origin of raw materials to finished goods; and

(e) cognizant engineering, quality, and production personnel reviewed the CSI technical data, complete depot (or other cognizant facility as applicable) controls, serial number tracking process, and required tests and inspections to ensure they are current, complete, accurate, and capable of meeting the original manufacturer and/or Service ESA’s requirements; and

(f) first article testing is satisfactorily accomplished; and

(g) assessments and testing of static and fatigue strength and limitations as well as other tests are conducted, when required by the Service ESA; and

(h) the Service ESA (including cognizant design engineering, quality, and production personnel) have signed their approval that the parts manufactured under this one-time manufacturing authority meet or exceed original manufacturer requirements, that traceability on the item is satisfactory, and that the item is safe for flight and ground operations and does not present a safety hazard to personnel. Enclosure (2) provides example forms for one-time manufacturing approval documents. When a CSI produced under the one-time manufacturing authority does not meet original manufacturer requirements or has not been fully qualified, the ESA shall establish and ensure publication of applicable operating procedures, restrictions, and limitations as well as applicable maintenance, inspection, tracking, and disposal requirements.

3. Quality:

a. All Class I Engineering Change Proposals (ECPs) or proposed Permanent or Temporary Modifications (as defined in Enclosure (1)) on CSIs shall be reviewed and approved by the cognizant Service ESA. All Class II ECPs for CSIs shall be approved by the cognizant Service ESA unless delegated by Service ESA.

b. As a rule, only CSIs that fully conform to all characteristics shall be accepted. Exceptions can be made in cases of public exigency, but only when the nonconformances have been reviewed, approved, and justified in writing by the cognizant Service ESA. All CSI nonconformances (critical, major, and minor) and all Requests for Deviations or Waivers associated with CSIs shall be approved by the cognizant Service ESA using quality assurance practices in accordance with references 11 and 12. The ESA may delegate to DCMA approval of Class II Engineering Change Proposals (ECPs). Procuring activities shall withhold waiver authority for minor nonconformances on CSIs unless otherwise advised by the ESA. The approval authority for critical or major nonconformances shall not be delegated. Additionally, exceptions to critical characteristics must be approved by the head of the Service ESA or their designated representative. Where the CSI is used by more than one Service (i.e., the item is a common-use CSI), nonconformances shall be coordinated across the using Services ESAs. Nonconformances to critical characteristics of common-use CSIs must be approved by the head of each affected Service ESA or their designated representative.

c. Rebranding (i.e., remarking or relabeling) which obscures the marking of the OEM of CSIs by suppliers is prohibited.

d. Government contract quality assurance (GCQA) at source shall be required for all CSI procurements. The GCQA approach shall be sufficient to ensure conformance of all critical characteristics and critical processes identified on the drawing, specification, technical data package, otherwise established in the contract, or Enclosure (3). Critical characteristics and processes may be indicated on the drawing by a black star, flight critical marking, or similar identification. GCQA is not limited to verification of the CSI characteristics identified as critical. The cognizant Contract Administration Office shall perform quality assurance activities in accordance with references 11 and 12. Certificates of Conformance (CoCs) for CSIs in lieu of government product verifications are not authorized without Service ESA approval.

e. When specific CSI quality requirements are identified by the Service ESA, quality assurance letters of instruction (QALIs), quality assurance provisions (QAPs), criteria for the special inspections, process verifications, or similar requirements shall be developed and provided to the procuring activity.

f. When DCMA anticipates delegating to a Host Nation the GCQA functions for aviation CSIs maintained, repaired, or overhauled at supplier facilities outside the United States, DCMA will obtain concurrence from the affected ESAs. As much as practical, the GCQA delegations should show the functions to be performed by the Host Nation for each aviation program. DCMA and the ESAs will review the effectiveness of the delegation at least every 3 years.

g. First Article Testing (FAT), Production Lot Testing (PLT), and Product Verification Audits (PVA) shall be incorporated into the contract or organic repair work order (e.g., program notice, task order, etc.) when specified in drawings, technical data packages, in response to Source Approval Request (SAR) packages or when otherwise specified by the Service ESA. As a rule, waiver of FAT or PVA should be considered, provided the manufacturer:

(i) was previously approved for that item; and

(ii) has successfully manufactured and delivered the specific CSI within the past 3 years; and

(iii) has no unfavorable quality history; and

(iv) has not made any changes to the item, processes, manufacturing location or sub-contractors used to manufacture the item successfully in the past.

h. Reverse engineering shall be considered only after all other methods for obtaining the part or the necessary technical data have been unsuccessful and significant cost savings can be demonstrated or where mission readiness is severely impacted. Reverse engineering decisions shall be authorized by both the head of the contracting activity and the Service ESA, in accordance with reference 13. Source approval and quality assurance policies established by this instruction shall apply to all reverse engineered CSIs. Coordination among Service ESAs is required for common use CSIs.

(i) The Service ESA shall validate that all aspects of the proposed reverse engineered design, materials, critical characteristics, and critical manufacturing processes fully satisfy requirements.

(ii) The Service ESA shall approve and/or conduct the FAT of a reverse engineered CSI the first time an award is made using the reverse engineered design.

i. CSIs are candidates for competition or breakout from the prime contractor only when the screening requirements outlined in reference 8 have been considered.

j. Modifications of CSIs during installation or repair in order to make the item fit or function are prohibited unless approved by the Service ESA. CSIs that need to be modified to make them fit or function properly shall not be installed until the problem has been reported to the cognizant Service ESA and dispositioned in accordance with established discrepant material review processes.

k. In the repair/overhaul of aviation systems and equipment, only conforming CSIs purchased from sources approved by the Service ESA shall be used. This is regardless of whether the repair/overhaul is performed by the Government or a contracted entity.

l. Product Quality Deficiency Reports (PQDRs) shall be submitted, investigated, tracked, processed, and recorded in accordance with reference 14, where deficiencies are identified or suspected on CSIs. PQDRs shall be submitted on CSIs where there is a defect or nonconforming condition detected on new or newly reworked government-owned products, premature equipment failures, or products in use that do not fulfill their expected purpose, operation, or service due to deficiencies in design, specification, material, manufacturing, and workmanship. Deficiencies relating to critical characteristics or those that potentially impact safety shall be classified as Category 1 PQDRs.

m. Technical directives (e.g., Technical Notices, Safety of Flight Messages, Airworthiness Directives, Bulletins, etc.) shall be issued and managed in accordance with service instructions where an engineering investigation or QDR investigation indicates that action is required to address a deficiency associated with a CSIs.

n. CSIs that were originally purchased with an FAA certification/approval (i.e., dual-use FSCAP) or were received as an installed item on an FAA certificated aircraft will not retain their dual-use status if any subsequent modifications, repairs, engineering changes, waivers or deviations were made without FAA approval or if the items were manufactured in a facility that does not have FAA production approval. In such cases, the item is to be considered "military-unique FSCAP" upon disposal. Such parts should be marked or renumbered prior to disposal to prevent potential commingling with civil part.

4. Disposal

a. When CSIs are no longer required by each service's aviation activity the CSIs and associated documentation shall be provided to the Defense Reutilization and Marketing Service (DRMS) for disposal as required by reference 2 and in accordance with reference 18. When it is not economically practical to send consumable CSIs to DRMS, military Services may dispose of the CSIs in accordance with paragraph E.4.b below.

b. Prior to disposal, CSIs that are defective, nonconforming, have exceeded their life or time/use critical limits, or for which there is either no documentation or no reliable documentation regarding the manufacture, acquisition, use, modification, repair, or overhaul shall be mutilated. CSIs that contain military offensive or defensive capabilities shall be demilitarized in accordance with reference 19.

c. Only CSIs purchased from FAA certificate/approval holders or removed from FAA certificated aircraft with full documentation supporting FAA approval (design and

production) through maintenance/repair and use shall be considered dual use FSCAP and disposed of with documentation in accordance with references 2 and 17.

d. Contracts for the repair, overhaul or modification of aviation systems, subsystems, or equipment shall ensure proper disposal of CSIs.

5. Management and Oversight

a. Technical data necessary for the design, manufacture, procurement, repair, or overhaul of CSIs shall be verified and validated by the Service ESA. The ESA shall ensure that copies of new Technical Data Packages (drawings and associated documentation) are approved prior to provisioning and are submitted to the appropriate technical data repositories in accordance with internal procedures.

b. The Service ESAs shall develop, maintain, and distribute or provide access to a current listing of CSIs, which includes identification of all approved sources of manufacture, supply, or repair/overhaul for each CSI.

c. All Services and DLA shall comply with reference 16.

d. All Services responses to requests for engineering support shall be accurate and every effort shall be made to respond in the time requested. Requestors shall be notified if the requested timeframe cannot be met and will be supplied with an estimated completion date.

e. In the event of concerns regarding specific requests for engineering support that cannot be resolved at the working level in a timely manner, the issue shall be elevated within the respective Service and DLA organizations for resolution.

f. The Services, DLA, and DCMA shall establish and conduct training programs to ensure personnel involved with CSIs are fully aware of management responsibilities and requirements.

g. The Services, DLA, and DCMA shall jointly conduct an annual assessment of CSI management to confirm that this instruction is properly implemented, to identify and correct nonconforming situations before they become problems to the fleet, and to identify and institute process improvements.

F. RESPONSIBILITIES

1. The Joint Aeronautical Commanders' Group (JACG) Aviation Engineering Board (AEB) is responsible for developing, coordinating, and managing the policies, processes, training and reviews associated with CSIs.

2. The Service ESAs are responsible for the design integrity and operational safety, suitability, and effectiveness of aviation systems and equipment and have authority to delegate this responsibility. For the purpose of complying with references 1 and 2, the

Service ESAs are the “Design Control Activity” and the “Aircraft Airworthiness Authority” for their cognizant aircraft. The Service ESAs are responsible for:

- a. Obtaining the support, priority, and timely and accurate responses towards implementing this instruction from the chief engineers of the various programs.
 - b. Properly identifying or confirming the criticality and the associated critical characteristics, manufacturing processes, and quality assurance requirements of each CSI when an item is newly introduced into the inventory or whenever there is a proposed change to a CSI, its manufacture, or its supply or repair/overhaul source.
 - c. Developing, maintaining, and distributing or providing access to a current listing of CSIs, which includes identification of prime contractors, OEMs, and alternate sources of manufacture, supply, or repair/overhaul for each CSI.
3. The Logistics Organizations (Services and DLA) are responsible for ensuring that:
- a. Logistics personnel are effectively trained on CSI responsibilities.
 - b. CSIs and the associated documentation are effectively coded, acquired, maintained, and managed for applicable equipment.
 - c. Technical documentation acquired to support or maintain an aviation system subsystem, equipment, or component adequately identifies CSIs and/or associated critical characteristics or processes. Service logistics organizations shall ensure that technical documentation is maintained and provided to or made accessible to the organizations responsible for acquiring, maintaining, repairing, or overhauling the systems or equipment.
 - d. Engineering support is requested when evaluating alternate sources for CSIs and on all issues involving potential design manufacturing and configuration changes on CSIs (e.g., Class I ECPs, waivers or deviations, reverse engineering proposals).
 - e. ESA determinations are requested on the criticality of items not previously determined.
 - f. Solicitations and contracts for CSIs properly identify the items as critical safety, that contract awards are made only to approved sources, and that the contracts reflect the technical requirements established by the ESA.
 - g. Contracts for the acquisition or logistics support of aviation systems, subsystems, equipment, or components require the prompt notification to potentially affected procuring activities and DCMA of defective CSIs or of deficient CSI manufacturing processes that potentially impact safety.
 - h. Contracts for the acquisition or logistics support of aviation replenishment items require the prompt notification to potentially affected procuring activities and DCMA of subcontractors or suppliers who are removed from the contractor’s approved supplier system

as a result of improperly manufactured, tested, processed or documented (e.g., certifications, test or inspection reports, etc) aviation CSIs;

i. Cataloging data and Federal Logistics Information System (FLIS) data for CSIs they manage accurately reflect items as critical safety by listing the Criticality Code (in accordance with MIL-PRF-49506 in current data systems.

j. Advice, assistance, and recommendations concerning criticality determinations and related issues are provided to the ESA.

4. The Service depots and other organic industrial facilities are responsible for ensuring the implementation of this instruction by responsible maintenance activities and commercial contractors supporting repair and overhaul.

5. Service Acquisition Commanders, Aviation Program Executive Officers (PEOs) and/or Program Managers that provide procurement or repair/overhauling services for aviation products shall:

a. Support the ESAs in identification of current CSIs for their programs;

b. Assign engineers to respond to requests for engineering support on CSIs in a timely manner;

c. Provide sufficient funding to ensure that all CSIs are identified sufficiently early enough during the acquisition cycle, or when developing Design Change Notices (DCNs), to provide the required information to impact support planning. When such information was not previously provided, PEOs/Program Managers shall fund for developing such information when subsequently needed;

d. Include contractual provisions that require prime contractors to conduct analyses and identify CSIs using Criticality Code (in accordance with Mil-Prf-49506) and their associated critical/major characteristics and processes prior to provisioning/cataloging. Contractual provisions shall ensure this information is either distributed to or accessible by the Government;

e. Ensure that contracts for acquisition or logistics support include provisions that require the contractor to adhere to the policies of this instruction and that CSIs are only provided by sources approved by the Service ESA;

f. Ensure that contracts for the acquisition or logistics support of aviation systems, subsystems, or equipment require the prompt notification to potentially affected procuring activities and DCMA of subcontractors or suppliers who are removed from the contractor's approved supplier system as a result of improper manufacturing, testing, processing or certifying parts and equipment;

g. Ensure that technical documentation delivered to the Government for use in reprocurments clearly identifies CSIs and their associated critical characteristics and processes; and

h. Ensure that repair and rework specifications (e.g., Standard Depot Level Maintenance, Phased Depot Level Maintenance, and Integrated Maintenance Concept specifications) comply with this instruction.

6. DCMA shall:

a. Review contracts involving CSIs to identify technical requirements, inspections, and acceptance criteria, particularly those associated with critical and major characteristics. Where a DCMA technical specialist believes an item may be a CSI but is not identified as such or an item may be inappropriately identified as a CSI, the technical specialist will initiate contact with the procuring activity to request guidance. Where the contract clearly identifies an item as CSI but the technical requirements or customer direction (e.g. QALI or MOA) do not identify critical characteristics, the technical specialist shall apply the criteria in enclosure 3 to determine the characteristics/features that should be treated as significant during Government Contract Quality Assurance (GCQA) surveillance activities.

b. Perform GCQA in accordance with references (11) and (12), including the necessary product inspection, test, or verification to ensure CSIs presented for acceptance meet technical requirements of the contract. GCQA shall include requirements established by QALIs. GCQA shall include critical characteristics identified on the drawings, specifications, technical data packages, or as otherwise established by the contract. Where critical characteristics are not otherwise defined GCQA shall include significant product characteristics/features as defined through application of the criteria in enclosure (3).

i. GCQA is not limited to verification of the CSI characteristics identified as critical. The following key processes have been identified by the ESAs as important in so far as they pertain to the specific CSI. The following processes should be considered when identifying "key processes". GQA surveillance of these processes should be risk based. These processes include: destructive and nondestructive tests (e.g. proof load, pressure, leakage, tensile, shot peen, operational/functional, etc); special processes (e.g. welding, soldering, bonding and curing for composite and honeycomb assemblies, surface coatings and plating, etc.); heat treat; stress relieve; part markings, fabrication and assembly; and special packaging or handling (e.g. control of electrostatic discharge).

c. Advise the procuring activity of corrective action requests issued by DCMA to the supplier relating to nonconforming CSIs, CSI critical characteristics, or deficient manufacturing, configuration management, quality management, or supplier management processes. Advise procuring activities of contractor responses and status of corrective actions relating to defective CSIs or CSI processes.

d. Notify affected procuring activities when DCMA becomes aware that a contractor removes a source from the contractor's listing of approved subcontractors or suppliers because of improper or suspect manufacturing, quality management, or configuration management processes and there may be an impact on critical safety items.

e. Advise the procuring activity of recommendations for use of a Certificate of Conformance (CoC) in lieu of GCQA. DCMA shall assure that the contract has been appropriately modified prior to implementing an ESA approved CoC.

f. Perform disposition of minor non-conformances of CSIs unless the authority for disposition is retained by the procuring activity through the contract. Any use-as-is or repair dispositions being applied to contractually defined critical characteristics must be forwarded to the procuring activity and subsequently to the ESA for approval. Where the critical characteristic is not identified on the drawing, specification, technical data package, or otherwise specified in the contract, but identified through a QALI or other customer direction, any use-as-is or repair disposition to nonconformance of such characteristics must be prior coordinated with the procuring activity. Where DCMA has minor non-conformance decision authority for CSIs, the specialist shall advise the ESA of any evidence or trends indicating potential problems with the specific CSI or other related critical products produced by the manufacturer.

g. Review ECPs and requests for major and minor waivers or deviations for completeness and accuracy. Provide comments and recommendations to the procuring activity.

h. Request that the procuring activity either provide specific acceptance criteria or require acceptance at destination vice source when the CSI contract is awarded to a dealer or distributor and the applicable drawings, specifications, test or inspection equipment or facilities are not available to the DCMA specialist to verify product conformance.

G. EFFECTIVE DATE AND IMPLEMENTATION. This publication is effective and shall be implemented upon distribution.

BY ORDER OF THE DIRECTOR

ENCLOSURES

1. Definitions
2. Samples of One-Time Manufacturing Approval
3. Significant Product Characteristics/Features for CSIs

COORDINATION:

Army --xx
Navy -- xx
Air Force -- xx
DLA -- xx
DCMA - xx

DEFINITIONS

Accident, Class A. A mishap where the resulting total cost of damages to Government and other property is of an amount \$1 million or more; a DoD aircraft is destroyed; or an injury and/or occupational illness results in a fatality or permanent total disability

Acquisition Method Code (AMC). A single digit numeric code, assigned by a DoD activity, to describe to the contracting officer and other government personnel the results of a technical review of a part and its suitability for breakout.

Acquisition Method Suffix Code (AMSC). A single digit alpha code, assigned by a DoD activity, that provides the contracting officer and other government personnel with engineering, manufacturing, and technical information further describing suitability/non-suitability for breakout.

Actual Manufacturer. An individual, activity, or organization that performs the physical fabrication processes that produce the deliverable part or other items of supply for the government. The actual manufacturer must produce the part in-house. The actual manufacturer may or may not be the prime contractor or Original Equipment Manufacturer (OEM).

Aircraft Airworthiness Authority. A term used in DoD Regulation 4140.1-R section C6.5 to describe the military organization responsible for determining the safety suitability and effectiveness of parts that go into aviation systems. For the purpose of this instruction, the Aircraft Airworthiness Authority for each respective service are the Naval Air Systems Command, Assistant Commander for Research and Engineering (AIR-4.0) for the Navy; US Army Aviation and Missile Command (AMCOM) Aviation Engineering Directorate (AMSAM-RD-AE) for the Army; and Designated Air Force Single Manager for a Weapon System for the Air Force. The term Aircraft Airworthiness Authority is synonymous with Design Control Activity and Engineering Support Activity.

Airworthiness. For the purpose of this instruction, airworthiness is the demonstrated capability of an aircraft or aircraft subsystem or component to function satisfactorily when used within prescribed limits.

Alternate Item. An item other than the approved part number cited in the Acquisition Identification Description (AID). To be approved, the alternate item must be identical to, or be physically, mechanically, electrically, and functionally interchangeable with the product cited in the AID.

Alternate Source. An offeror (Government or contractor) from other than the Prime contractor or OEM to provide the identical part numbered item.

Alternate Source Qualification (ASQ). The formal process for requesting, evaluating, and approving the capability of alternate sources to repeatedly and acceptably manufacture or repair/overhaul CSIs.

Approved Dealer/Distributor. A dealer or distributor (as defined in this instruction) that has been approved by the ESAs to deliver specific aviation CSIs to the military. Typically, approved dealers and distributors are formally sanctioned by the prime contractor or Original Equipment Manufacturer (OEM) to buy, sell, and distribute the prime contractor or OEM's products. Such dealers/distributors typically are reviewed, audited, approved, and monitored by the prime contractor or OEM to assure the parts supplied are identical to those originally supplied to them. Parts provided by such dealers/distributors typically carry the same warranty and protections as if the items were purchased directly from the prime contractor or OEM.

Bulletin. A Technical Directive that directs a one-time inspection of equipment, contains related instructions, and disseminates administrative or management information as related to maintenance of weapon systems.

Catastrophic Mishap. See Mishap Severity Category I, Catastrophic.

Class A Accident. See Accident, Class A

Common Use Item. For the purpose of this instruction, a common use item is a part, assembly, subsystem, or store used in different military aviation systems (e.g., "types") or a part, assembly, subsystem, or store that is unique to a specific aviation system used by multiple Military Services.

Consumable Item. Any item or substance that, upon installation, loses its identity and is normally consumed in use or cannot be economically repaired.

Critical Application Item (CAI). An item that is essential to weapon system performance or operation, or the preservation of life or safety of operating personnel, as determined by the military services. The subset of CAIs whose failure could have catastrophic or critical safety consequences (Category I or II as defined by MIL-STD-882) is called CSIs.

Critical Characteristic. Any feature throughout the life cycle of a Critical Item, such as dimension, tolerance, finish, material or assembly, manufacturing or inspection process, operation, field maintenance, or depot overhaul requirement that if non conforming, missing, or degraded may cause the failure or malfunction of the Critical Item.

Critical Item Code (CIC). A code that identifies items determined to have critical application in accordance with DLAR 3200.3. This code identifies items essential to the preservation of life in emergencies or essential to end item or system performance, the failure of which would adversely affect the successful accomplishment of a military operation.

Critical Item Procurement Requirements Document (CIPRD). A document managed by DLA for standard parts which are sometimes used in critical applications and described by military or nongovernmental specifications where a QPL does not exist. CIPRDs identify the

top-tier procurement document for the specific National Stock Numbered and/or Part Numbered items covered, product technical requirements; reference documents; special quality assurance, packaging, traceability, or certification requirements; qualification procedures, sources approved by the Service ESAs, and approving Service ESAs.

Criticality Code (CC). A code that indicates that an item has been assessed and documented in the TDP as being technically critical by reason of tolerance, fit restrictions, application, nuclear hardness properties or characteristics which affects identification of the item. The codes are defined by MIL-PRF-49506

Critical Deviation. See Deviation, Critical.

Critical Mishap. See Mishap Severity Category II, Critical.

Critical Safety Characteristic. Any feature, such as tolerance, finish, material composition, manufacturing, assembly or inspection process or product, which if nonconforming or missing could cause the failure or malfunction of the critical safety item.

Critical Safety Item (CSI). A part, assembly, installation equipment, launch equipment, recovery equipment, or support equipment for an aircraft or aviation weapons system that contains a characteristics any failure, malfunction, or absence of which could cause a catastrophic or critical failure resulting in the loss or serious damage to the aircraft or weapons system, an unacceptable risk of personal injury or loss of life, or an uncommanded engine shutdown that jeopardizes safety. Damage is considered serious or substantial when it would be sufficient to cause a "Class A" accident or a mishap of severity category I. The determining factor in CSIs is the consequence of failure, not the probability that the failure or consequence would occur. For the purpose of this instruction "Critical Safety Item", "Flight Safety Critical Aircraft Part", "Flight Safety Part", "Safety of Flight Item", and similar terms are synonymous. The term Critical Safety Item shall be the encompassing term used throughout this instruction.

Critical Waiver: See Waiver, Critical.

Dealer. Any business organization that sells, conveys, or otherwise transfers a product (not his own) to another party. The dealer performs no manufacturing or testing and may sell a manufacturer's product without the manufacturer's control or knowledge.

Defect. Any nonconformance of a unit or product with specified requirements. Defects shall normally be grouped into one or more of the following classes but may be grouped into other classes or subclasses within these classes.

Defect, Critical. A defect that constitutes a hazardous or unsafe condition, or as determined by experience and judgment could conceivably become so, thus making the aircraft, system, or equipment unsafe for flight or endangering operating personnel.

Defect, Major. A defect, other than critical, that could result in failure or materially reduce the usability of the unit or part for its intended purpose.

Defect, Minor. A defect that does not materially reduce the usability of the unit or part for its intended purpose or is a departure from standards but which has no significant bearing on the effective use or operation of the unit or part.

Demilitarization. The act of destroying the military offensive or defensive advantages inherent in certain types of equipment or material. The term includes mutilation, dumping at sea, scrapping, melting, burning, or alteration designed to prevent the further use of this equipment and material for its originally intended military or lethal purpose and applies equally to material in unserviceable or serviceable condition that has been screened through an Inventory Control Point and declared excess or foreign excess.

Design Control Activity. The systems command of a military department that is specifically responsible for ensuring the airworthiness of an aviation system or equipment in which an aviation Critical Safety Item will be used. Design Control Activity is synonymous with Aircraft Airworthiness Authority and Engineering Support Activity.

Deviation. A written authorization, granted after contract award and prior to the manufacture of the item, to depart from a particular performance or design requirement of a contract, specification, or referenced document, for a specific number of units or a specified period of time. Deviations are intended only as one-time departures from an established configuration for specified items or lots and are not intended to be repeatedly used in place of formal engineering changes.

Deviation, Critical. A deviation is designated as critical when the deviation consists of a departure involving safety or when the configuration documentation defining the requirements for the item classifies defects in requirements and the deviations consist of a departure from a requirement classified as critical.

Deviation, Major. A deviation is designated as major when the deviation consists of a departure involving health, performance, interchangeability, reliability, survivability, maintainability, or durability of the item or its repair parts; effective use or operation; weight; or appearance (when a factor) or when the configuration documentation defining the requirements for the item classifies defects in requirements and deviations consist of a departure from a requirement classified as major.

Deviation, Minor. A deviation is designated as minor when it consists of a departure that does not qualify as Critical or Major or when the configuration documentation defining the requirements for the item classifies defects in requirements and the deviations consist of a departure from a requirement classified as minor.

Direct Purchase. The acquisition of a part from the OEM, including a prime contractor who is an actual manufacturer of the part.

Disposal. The process of reutilizing, transferring, donating, selling, destroying, or other ultimate disposition of personal property.

Dual Use Product/Part. Any product or part manufactured for civil application by an FAA Production Approval Holder (PAH) which is also procured under U. S. military contract. The

product or part has the identical part number and configuration as its civil counterpart; it was manufactured using the same FAA-approved design and manufactured under the FAA production approval. These could also include any product (or part thereof) originally produced for the military which currently holds a normal, utility, acrobatic, or transport type certificate (TC) issued under section 14 Code of Federal Regulations 21.27

Engineering Change. A change to the current approved configuration documentation of an item at any point in the life cycle of the item.

Engineering Change Proposal (ECP). The documentation by which a proposed engineering change is described, justified, and submitted to a) the cognizant design control authority for approval or disapproval of the design change in the documentation and b) to the procuring activity for approval or disapproval of implementing the design change in units to be delivered or retrofit into assets already delivered.

Engineering Change Proposal, Class I. For the purpose of this instruction, a Class I Engineering Change Proposal is a formally recommended change to an item's configuration that would affect form, fit, function, performance, reliability, maintainability, survivability, weight, balance, moment of inertia, interoperability, interchangeability, or interface characteristics, electromagnetic characteristics, other critical or major characteristics identified in technical documentation, or cost.

Engineering Change Proposal, Class II. For the purpose of this instruction, a Class II Engineering Change Proposal is an ECP that does not meet the requirements for a Class I ECP.

Engineering Critical. A term used to describe a part so crucial that independent malfunction or failure could be catastrophic and result in personal injury or loss of life, jeopardize a military mission, or loss of military weapons system or equipment. Engineering critical parts require special documentation, controls, and testing beyond normal requirements.

Engineering Support. Engineering and technical assistance, including developing, validating and approving technical data, Technical Data Packages (TDPs) and engineering criteria, engineering representation, or providing technical guidance and decisions required in the management of an item or approving sources of manufacture, repair, or overhaul.

Engineering Support Activity (ESA). The Military Service organization assigned responsibility and authority to perform and approve engineering and quality assurance actions necessary to evolve detail design disclosures for systems, subsystems, equipment, and components exhibiting attributes essential for products to meet specific military requirements. During the operational phase, it includes any engineering activity, the results of which would add to or alter the design of equipment in such a manner, or to such an extent, as to change its operational capabilities or its design attributes of performance, reliability, maintainability and parts interchangeability, or to render it capable of alternative or additional use. For the purpose of this instruction, the ESA is the Service's Aircraft Airworthiness Authority and Design Control Activity.

Engineering Support Activity Focal Point. Entry and exit point for DLA Form 339, Request for Engineering Support, activity within each Service. The ESA Focal Point interfaces

directly with DLA and ensures DLA Form 339 requests are forwarded to the correct and proper ESA. The ESA Focal Point also provides records and tracks associated timeliness and quality metric data. The ESA Focal Point is identified in DoD 4100.39-M, Vol. 10, Chapter 4, Table 104. Unless delegated by the ESA, the ESA Focal Point has no authority on CSIs for determining item criticality, approving engineering changes, approving nonconformances, or approving sources of supply.

Extended Engineering Effort. A DLA request for engineering support that, upon review by the ESA, requires the use of dedicated resources to work a defined requirement, has an end product clearly specified by DLA, and incurs a one-time negotiated charge.

Failure. The event, or inoperable state, in which any item or part of an item does not, or would not, perform as previously specified.

First Article. Pre-production models, initial product samples, test samples, first lot samples or pilot lots used to evaluate full conformance to the specified contract requirements.

First Article Test (FAT). Contractually required testing and inspection of a supplier's pre-production, production, or "production-representative" specimens to evaluate whether the supplier can manufacture fully conforming products prior to the Government's commitment to receive subsequent production items. First Article Testing does not necessarily assess manufacturing processes and controls nor does it assure the effectiveness of a supplier's quality system. First Article Testing is not synonymous with qualification testing.

Flight Safety Critical Aircraft Part (FSCAP). Any aircraft part, assembly, or installation containing a critical characteristic whose failure, malfunction, or absence may cause a catastrophic failure resulting in loss or serious damage to the aircraft or an uncommanded engine shutdown resulting in an unsafe condition. For the purpose of this instruction "Critical Safety Item", "Flight Safety Critical Aircraft Part", "Flight Safety Part", and "Flight Safety Critical Part" are synonymous. The term Critical Safety Item shall be the encompassing term used throughout this instruction.

Fully Licensed Manufacturer. An actual manufacturer with current, formal authorization by the prime contractor to produce critical items on behalf of the prime contractor. To be fully licensed, the prime contractor must have reviewed and approved the suppliers' manufacturing processes, manufacturing controls, technical documentation, quality and inspection capabilities, and item support practices. Licensing must assure that the prime contractor shall provide technical assistance to the customer, when requested, for parts manufactured by the supplier under the license agreement.

Fully Licensed Repair/Overhaul Facility. A repair/overhaul facility with current, formal authorization by the prime contractor or OEM to repair/overhaul CSIs on behalf of the prime contractor. To be a fully licensed repair/overhaul facility, the prime contractor must have reviewed and approved the facility's repair/overhaul processes and controls, technical documentation, quality and inspection capabilities, and item support practices. Licensing must assure that the prime contractor shall provide technical assistance to the customer, when requested, for items, equipment, or systems repaired/overhauled by the facility under the license agreement.

Government Quality Assurance (GQA). Government Contract Quality Assurance means the various functions, including inspection, performed by the Government to determine whether a contractor has fulfilled the contract obligations pertaining to quality and quantity. GCQA is the process by which Government develops and applies efficient plans for performing the various quality assurance actions necessary, including inspection and written direction from the contracting office, to verify whether the supplies or services conform to contract quality requirements

Hazard. Any real or potential condition that can cause injury, illness, or death to personnel; damage to or loss of a system, equipment, or property; or damage to the environment.

Inspection. Evaluation by observation and judgment accompanied as appropriate by measurement, testing or gauging to assess the conformance of supplies and services to contract requirements.

Integrated Material Manager (IMM). Any DoD activity or agency that has been assigned wholesale integrated material management responsibility for the Department of Defense and participating Federal agencies. IMM responsibilities include cataloging, requirements determination, procurement, distribution, overhaul, repair and disposal of materiel.

Life Support Item. All man-mounted or aircraft installed equipment and components designed to protect, sustain, or save human lives are categorized as life support. This includes, but is not limited to, ejection systems, crew seats, passenger seats, emergency escape slides, parachutes, life rafts and preservers, survival kits, emergency radios and beacons, aircrew helmets, oxygen masks, goggles, visors, chemical defense equipment, and selected clothing and uniform items.

Local Purchase. The direct purchase of an item covered by the DoD Coordinated Acquisition Program (DFARS 208.70) by other than the organization assigned Coordinated Acquisition Program contracting responsibility or Integrated Material Management responsibility (as established in DoD 4140.26-M).

Major Characteristic. A characteristic that analysis indicates is not critical but is likely, if defective, to result in failure of the end item to perform a required mission.

Material Review Board (MRB). The formal contractor-government board established for the purpose of reviewing, evaluating, and disposing of specific nonconforming supplies or services, and for assuring the initiation and accomplishment of corrective action to preclude reoccurrence.

Military Unique FSCAP. Any FSCAP specifically and uniquely designed and manufactured for the U.S. military, for which there is no corresponding FAA-approved type design or PAH engine, propeller or part produced for civil application. "Breakout" products or parts, produced specifically for military use by a manufacturer other than an FAA PAH using military-provided designs/drawings and specifications, are also considered military unique.

Mishap. An unplanned event or series of events resulting in death, injury, occupational illness, damage to or loss of equipment or property, or damage to the environment.

Mishap Risk. An expression of the impact and possibility of a mishap in terms of potential mishap severity and probability of occurrence.

Mishap Severity. An assessment of the consequences of the most reasonable credible mishap that could be caused by a specific hazard.

Mishap Severity Category I, Catastrophic. A mishap that could result in death, permanent total disability, loss exceeding \$1M, or irreversible severe environmental damage that violates law or regulation.

Mishap Severity Category II, Critical. A mishap that could result in permanent partial disability, injuries, or occupational illness that may result in hospitalization of at least three personnel, loss exceeding \$200K but less than \$1M, or reversible environmental damage causing a violation of law or regulation.

Modification. For the purpose of this instruction, any alteration, addition, or removal of aircraft or aircraft engine structure, components, equipment, computer software, or primary instrumentation. Routine maintenance is exempt from this definition.

Modification, Permanent. A term used by the Air Force and described in Air Force Instruction 63-1101 to describe a proposed permanent change to the form, fit, function or interface of a configured item to either correct material deficiencies, improve reliability and maintainability, improve performance, add or remove capability, or correct a deficiency which could endanger the safety or health of personnel or cause loss or extensive damage to systems or equipment.

Modification, Temporary. A term used by the Air Force and described in Air Force Instruction 63-1101 to describe a proposed temporary change an item for flight or ground test purposes or to support accomplishment of a specific mission. Temporary modifications are often used to add or remove equipment in order to temporarily change the configuration of a configured item for a special mission or to support research, development, test, and evaluation (such as to evaluate the effectiveness of the change on selected equipment prior to authorizing a permanent modification).

Mutilation. The act of making material unfit for its originally intended purposes by cutting, tearing, scratching, crushing, breaking, punching, shearing, burning, neutralizing, etc.

Nonconformance. The failure of an item to meet a defined characteristic or process.

Nonconformance, Critical. A nonconformance that is likely to result in hazardous or unsafe conditions for individuals using, maintaining, or depending upon the supplies or services or one that is likely to prevent performance of a vital agency mission. Critical nonconformance includes departures from specified requirements in any critical characteristic or process or departures from unspecified requirements where the consequences would be catastrophic or critical.

Nonconformance, Major. A nonconformance other than critical that is likely to result in failure or to materially reduce the usability of the supplies or services for their intended purpose. Major nonconformances involve items which depart from contract requirements and typically affect one or more of the following major areas: performance, durability, interchangeability, effective use or operations, weight or appearance (where a factor), health or safety.

Nonconformance, Minor. A nonconformance that is not likely to materially reduce the usability of the supplies or services for their intended purpose, or is a departure from established standards having little bearing on the effective use or operation of the supplies or services. Minor nonconformances are departures from contract requirements and do not affect any of the criteria specified as major nonconformance.

One-Time Manufacture. A limited quantity of material which is used to fill an immediate requirement to support depot production demands and/or fleet operating forces, to be manufactured locally only after concerted efforts to expedite requirements from other sources have failed.

Original Equipment Manufacturer (OEM). For the purpose of this instruction, an OEM is the individual, activity, or organization that performs the physical fabrication processes that produce the deliverable part or other items of supply for the prime contractor. The OEM must produce the part in-house. The OEM may or may not be design responsibility by the prime contractor for preparation and technical currency of drawings and technical data. .

Overhaul. The process of disassembly sufficient to inspect all the operating components and the basic end article. It includes the repair, replacement, or servicing as necessary, followed by the reassembly and bench check or flight test. Upon completion of the overhaul process, the component or end article will be capable of performing its intended service life or service tour.

Permanent Modification. See Modification, Permanent

Prescribed Limits. For the purpose of this instruction, the full authorized range or envelope of operating, environmental, and sustaining criteria or characteristics for the safe and reliable use of the aircraft system, subsystem, or associated equipment as determined by analysis, tests, and operating experiences.

Prime Contractor. A contractor having responsibility for design and/or delivery of a system, subsystem, or equipment such as aircraft, engines, ships, tanks, vehicles, guns and missiles, ground communications and electronics systems, and test equipment.

Production Lot Testing (PLT). Tests and examinations performed on items randomly selected from a contract, production line, or inventory to verify the items fully conform to all applicable requirements and are suitable for use. Product Lot Testing may be performed by the Government, at a Government designated testing laboratory, or by the contractor as established in the contract.

Product Verification. See Inspection.

Product Verification Audit. The physical examination, functional testing, disassembly, inspection, re-assembly and re-setting of an item so that full determination of conformance to specifications can be verified.

Propulsion Flight Safety Critical Part. A subset of CSIs specifically associated with propulsion and power systems for which the technical risk associated with alternate source qualification has been deemed unacceptable and for which purchase from only the Prime Contractor for the propulsion system or their licensed vendor has been authorized by the Service Acquisition Executive under a Justification and Approval (J&A). Failure of any of these components would not be contained and would jeopardize the lives of aircrew and mean potential loss of the weapon system. Propulsion parts covered by this J&A satisfy the following criteria:

- a. component failure would result in death or weapon system loss or failure results in a non-recoverable in-flight shutdown rate of .5 per 1,000,000 engine flying hours; and
- b. component is highly stressed, and
- c. component contains critical characteristics which cannot be fully inspected by nondestructive inspection, and
- d. component failure mode is fatigue and/or stress corrosion; and
- e. component is fabricated high strength steel, titanium, high temperature nickel, or cobalt alloys.

Provisioning. The process of doing the technical planning necessary to establish the item support plan, piece by piece and assembly by assembly; establishing the minimum levels or echelons responsible for repair/overhaul; identifying the kind and type of support equipment requirements, handbooks, manuals, and other maintenance publications; determining the basic factory and field training requirements; and providing for the establishment of inventory management records.

Qualified Product List (QPL). A list of products that have met the qualification requirements stated in the applicable military, federal or non-government specification, including appropriate product identification and test or qualification reference with the name and plant address of the manufacturer and distributor, as applicable.

Rebranding. The remarking, relabeling, or repackaging of an item with a distributor's own product identification as opposed to that of the actual manufacturer.

Repair. Necessary preparation, fault correction, disassembly, inspection, replacement of parts, adjustment, reassembly, calibration, or tests accomplished in restoring items to serviceable status.

Repairable Item. A durable item which, when unserviceable, can be economically restored to a serviceable condition through regular repair procedures.

Replenishment Part. A repairable or consumable part purchased after provisioning for replacement; replenishment of stock; or use in the maintenance, overhaul, and repair of equipment such as aircraft, engines, ships, tanks, vehicles, guns and missiles, ground communications and electronic systems, ground support, and test equipment. As used in this instruction "part" includes subassemblies, components, and subsystems.

Reverse Engineering. The process by which serviceable parts are examined, analyzed, and tested to determine precisely from what materials they are made and how they were manufactured in order to enable manufacture of parts that exactly duplicate the examined parts. The expected result of reverse engineering is a complete Technical Data Package, including design and manufacturing data, verification requirements, and the associated qualification and proofing requirements suitable for reprourement of the item by new sources.

Safety. Freedom from those conditions that can cause death, injury, occupational illness, damage to or loss of equipment or property, or damage to the environment.

Shelf-Life Item. An item of supply possessing deteriorative or unstable characteristics to the degree that a storage time period or condition(s) must be assigned to assure that it shall perform satisfactorily in service.

Source Approval Request (SAR). A vendor proposal that includes all of the technical data required for a competent manufacturer to manufacture a critical safety item to a level of quality that is equal or better than the OEM part.

Source Control Drawing. A drawing that provides an engineering description and acceptance criteria for purchased items that also establishes design activity imposed qualification testing and provides performance, installation and interchangeability specific characteristics required for critical applications. It includes a list of approved manufacturers, the manufacturers' item identifications, and acceptance criteria for items, which are interchangeable in specific applications. The source control drawing establishes item identification for the controlled item(s). The approved items and sources listed on a source control drawing are the only acceptable items and sources.

Special Maintenance Item Code (SMIC). Codes which indicate any special maintenance category applicable to the item. The codes are defined by MIL-PRF-49506.

Stores. For the purpose of this instruction, any device intended for internal or external carriage, mounted on aircraft suspension and release equipment, and which may or may not be intended to be separated in flight from the aircraft. Stores include missiles, rockets, bombs, nuclear weapons, mines, fuel and spray tanks, torpedoes, detachable fuel and spray tanks, dispensers, pods, targets, chaff and flares including external dispensing equipment, and suspension equipment (racks, pylons).

Surplus Material. Material that was originally purchased and accepted by the U.S. Government and subsequently sold or disposed of by the Defense Reutilization and Marketing Service (DRMS).

System or Subsystem Prime Contractor. See Prime Contractor.

Technical Data. Data required for the accomplishment of logistics and engineering processes in support of the contract end item. It includes drawings, operating and maintenance instructions, provisioning information, specifications, inspection and test procedures, instruction cards and equipment placards, engineering and support analysis data, special purpose computer programs, and other forms of audiovisual presentation required to guide personnel in the performance of operating and support tasks.

Technical Data Package. A technical description of an item adequate for supporting an acquisition strategy, production, engineering and logistics support. The description defines the required design configuration and procedures required to ensure adequacy of item performance. It consists of all applicable technical data such as drawings and associated lists, specifications, standards, performance standards, quality assurance requirements, software and packaging details.

Technical Manual. A publication containing a description of equipment, weapons, or weapon system(s) with instructions for effective use. Included are one or more of the following sections: instructions covering initial preparation for use, operational instructions, modification instructions, maintenance instructions, parts lists or parts breakdown, and related technical information or procedures, exclusive of those of an administrative.

Temporary Modification. See Modification, Temporary.

Test. The determination of one or more characteristics according to a procedure.

Traceability. Documented evidence that the item to be supplied was/will be manufactured and/or maintained by the prime contractor, approved manufacturer, or FAA certificate/approval holder is identical to the product that was initially manufactured, and is in full compliance with all specifications, drawings, storage, packaging, and handling requirements, and other associated requirements. Documentation is required to demonstrate, to the government's satisfaction, the Government's ability to obtain all information necessary to trace the items back through the manufacturing and inspection process in the event of the item failure. The manufacturing process information includes, date and place of actual manufacturing and additional information as appropriate, such as verification of all aspects of material, manufacture, special processes, personnel certifications, assembly, inspection, installation, and repair.

Value Added. Additional services or support provided by the prime contractor on CSIs to ensure items purchased from OEMs or items repaired/overhauled from support facilities fully satisfy operational requirements for the designed service life of the component.

Verification. Confirmation through the provision of objective evidence that specified requirements have been fulfilled.

Waiver. A written authorization granted after contract award to accept an item, that during production, or after having been submitted for inspection or acceptance, is found to depart from contract or specified configuration requirements. Waivers are intended only as one-

time departures from an established configuration for specified items or lots and are not intended to be repeatedly used in place of formal engineering changes.

Waiver, Critical. A waiver shall be designated as critical when the waiver consists of acceptance of an item having a nonconformance with contract or configuration documentation involving safety or when the configuration documentation defining the requirements for the item classifies defects in requirements and waivers consist of a departure from a requirement classified as critical.

Waiver, Major. A waiver shall be designated as major when the waiver consists of acceptance of an item having a nonconformance with contract or configuration documentation requirements involving health, performance, interchangeability, reliability, survivability or maintainability of the item or its repair parts, effective use or operation, weight, or appearance (when a factor) or when the configuration documentation defining the requirements for the item classifies defects in requirements and the waivers consist of a departure from a requirement classified as major.

Waiver, Minor. A waiver shall be designated as minor when the waiver consists of acceptance of an item having a nonconformance with contract or configuration documentation which does not involve any of the factors of a critical or major waiver or when the configuration documentation defining the requirements for the item classifies defects in requirements and the waivers consist of a departure from a requirement classified as minor.

Wholesale. The highest level of organized DoD supply, and as such, procures, repairs, and maintains stocks to resupply the retail levels of supply.

AIRWORTHINESS CERTIFICATION
ONE-TIME MANUFACTURED CRITICAL SAFETY ITEM

COMPONENT PART NUMBER _____

NOMENCLATURE

PROCESS PLAN NUMBER _____

QUANTITY PRODUCED _____ SERIAL NUMBER(S) _____

DIRECTOR OF RESOURCES FOR MATERIAL

Director of Resources for Material certifies correctness of NSN/purchased critical safety item sub-components.

DIRECTOR _____ DATE _____

Signature

CODE

Printed Name _____

The responsible Research and Engineering Department Head signature certifies airworthiness of this component/ part.

PRODUCTION HEAD _____ DATE _____

Signature

CODE _____

Printed Name _____

QUALITY HEAD _____ DATE _____

Signature _____

CODE _____

Printed Name

COGNIZANT ENGINEER _____ DATE _____

Signature

CODE _____

Printed Name

RESEARCH AND ENGINEERING
LEVEL 2 DEPARTMENT HEAD _____ DATE _____

Signature

CODE _____

Printed Name _____

USE AND INSTALLATION AUTHORIZATION
OF MANUFACTURED CRITICAL SAFETY ITEM

COMPONENT PART NUMBER _____

NOMENCLATURE _____

DRAWING NUMBER AND REVISION _____

DRAWING CAGE CODE _____

END ITEM (e.g. H-53, F-404, etc.) _____

PROCESS PLAN NUMBER _____

PROCESS
PLANNER

Print Name

Signature

Date

QUALITY
ORGANIZATION
HEAD

Print Name

Signature

Date

MANUFACTURING
HEAD

Print Name

Signature

Date

SYSTEM
SAFETY
ENGINEER

Print Name

Signature

Date

COGNIZANT
ENGINEER

Print Name

Signature

Date

VERIFICATION OF NSN / PURCHASED MATERIAL
FOR MANUFACTURED CRITICAL SAFETY ITEM

MATERIAL PART NUMBER _____

MATERIAL STOCK NUMBER _____

THE ABOVE MATERIAL IS VERIFIED TO BE ACCURATE AS ORDERED

MATERIAL SHIPPING / RECEIVING SECTION ()

NIF STORE SECTION ()

PRODUCTION SHOP SUPPORT CENTER ()

LAB ANALYSIS REPORT NUMBER _____

SIGNATURE _____ DATE _____

PRINTED NAME _____ CODE _____

MATERIAL
ENGINEER _____
Print Name Signature Date

THE ABOVE MATERIAL IS VERIFIED RECEIVED AS ORDERED AND STORED

AT: _____
Location

UNTIL READY FOR ASSEMBLY.

SIGNATURE _____ DATE _____

PRINTED NAME _____ CODE _____

Significant Product Characteristics/Features for CSIs

This guidance applies to items contractually identified by the cognizant ESA as CSI, but without defined critical characteristics. Although the ESAs are working to formally define critical characteristics, there will always be an outstanding population of CSIs without defined critical characteristics. The following criteria is being made available for DCMA to use when critical characteristics are not otherwise defined in the technical data package, contract, or specific instructions provided by the procuring activity. The intent of these criteria is to define those significant product characteristics/features that the DCMA QAR will focus on where there is absence of ESA defined critical characteristics. GCQA shall not be limited to verification of the significant product characteristics/features identified through these guidelines, see paragraph F.5(c).

This enclosure is applied by comparing the contractual technical requirements e.g. drawing characteristics to the criteria below. Any characteristics meeting these criteria would be considered as significant product characteristics/features for GCQA purposes only. Application of these criteria does not impose any additional contractual requirements on the supplier.

The criteria is not intended to bar the QAR from requesting guidance from the procuring activity when there is a belief the item is misidentified as a CSI, believes the ESA should provide specific critical characteristics due to the nature of the particular CSI, no product characteristics meet the criteria, or application of the criteria would result in excessive resource expenditure.

Typical Critical Characteristic Criteria for CSIs (if not otherwise specified in the contract, technical data package or customer direction):

- Diametrical and linear dimensions having a total tolerance of “.001” or less.
- Any other (not diametrical and linear dimensions) geometric features with a total tolerance of “.002” or less (e.g. run out, perpendicularity, parallelism, concentricity).
- Surface finishes having a value of “16 RMS” or less.
- Threads specified to class 3 or greater or classified as Safety Critical.
- Angular dimensions with total tolerance range of 1 degree (60 minutes), or less.
- Test Methods & Acceptance Criteria for Nondestructive Testing (e.g. magnetic particle, liquid penetrant, radiographic inspection, ultrasonic, eddy current, etc.).
- Hardness requirements (e.g. Rockwell requirements) and shot peen requirements.
- Material physical properties and material certifications.
- Dynamic balancing of rotating units and static balancing of flight control surfaces.
- Flow checks for blades and vanes.
- Spray pattern requirements for fuel nozzles (incl. afterburner rings).
- Weight checks.